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SPECIFICATION FOR MULTI-PURPOSE CLOSED CHOCKS

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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 1

[redacted] Cr 2

December 1972

Indian Standard

SPECIFICATION FOR MULTI-PURPOSE CLOSED CHOCKS

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Indian Standard

SPECIFICATION FOR MULTI-PURPOSE CLOSED CHOCKS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 28 July 1972, after the draft finalized by the Shipbuilding Sectional Committee had been approved by the Marine, Cargo Movement and Packaging Division Council.

0.2 It is a statutory requirement of the Panama Canal authorities to have 'Panama Chocks (Fairleads)' fitted at specified positions on the ship to enable the ship to be towed through the canal. Ships are fitted with closed chocks for other purposes also. This Indian Standard, on multi-purpose closed chocks, includes the Panama Canal requirements and is closely aligned with ISO/R 1685-1971 'Multipurpose chocks of cast steel' issued by International Organization for Standardization (ISO).

0.3 The safe working load of the multi-purpose closed chocks is based on the admissible breaking strength of ropes specified by competent authority under whose rules the vessel is constructed.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard specifies the material and dimensions for multi-purpose closed chocks.

2. TERMINOLOGY

2.0 For the purpose of this standard, the following definitions shall apply.

2.1 Closed Chock — Closed chock is a deck fitting attached to the bulwark or to the deck to guide ropes to be passed from shore end to the ship. This is also referred to as 'fairlead'.

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*Rules for rounding off numerical values (*revised*).

2.2 Nominal Size — The minimum opening in the closed chock shall be referred to as the nominal size of the chock.

3. DESCRIPTION

3.1 Chocks (fairleads) are used to guide ropes from shore end to the ship. These are welded directly to the bulwarks or with a simple substructure to the deck.

3.1.1 Panama Canal chocks have to be fitted in specified positions on the ships in accordance with the Panama Canal Code of Federal Regulations.

3.1.2 Chocks of nominal dimensions 320 and 400 can be used as single and double chocks respectively and are in conformity with the Panama Canal Company regulations. Appendix A gives the statutory requirements of the Panama Canal Code of Federal Regulations in this regard.

4. MATERIAL

4.1 Chocks shall be made of weldable cast steel, normalized with a minimum tensile strength of 380 N/mm²*. The material shall conform to IS : 1030-1962† or to IS : 2985-1964‡.

5. SHAPE AND DIMENSIONS

5.1 The shape and dimensions of multi-purpose closed chocks shall conform to Table 1.

6. TOLERANCES

6.1 The tolerance in mm on dimensions of cast steel multi-purpose closed chocks shall conform to IS : 4897-1968§.

7. GENERAL REQUIREMENTS

7.1 Cast steel multi-purpose closed chocks shall be reasonably free from casting defects, such as blow-holes, etc.

7.2 The surface finish shall be 12·5 to 30 microns assessed according to IS : 3073-1967||.

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*$\text{N/mm}^2 \simeq \frac{1}{10} \text{kgf/mm}^2$.

†Specification for steel castings for general engineering purposes (*revised*).

‡Specification for steel castings for ship's structure.

§Deviations for untoleranced dimensions and weight of steel castings.

||Assessment of surface roughness.

8. DESIGNATION AND MARKING

8.1 Multi-purpose closed chocks shall be designated by its nominal size and the number of this standard.

Example:

Closed chocks of nominal size 400 shall be designated as:
Closed Chock 400 IS :

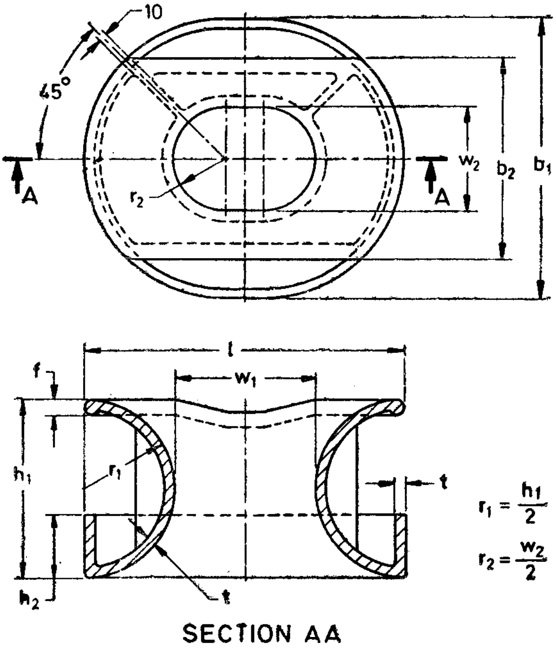
8.1.1 The multi-purpose closed chocks may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

TABLE 1 DIMENSIONS OF MULTI-PURPOSE CLOSED CHOCKS

(*Clause* 5.1)

All dimensions in millimetres.



Nominal Size	Safe Working Load of Chock KN†	b_1	b_2	f	h_1	h_2	l	t	w_1	w_2
125	50	250	175	15	160	65	285	10	125	90
160	100	315	225	18	200	70	360	12	160	115
200	160	390	275	21	250	75	450	14	200	140
250	250	480	340	24	300	80	550	16	250	180
320*	400	585	415	27	360	90	680	18	320	225
400*	650	710	500	30	440	110	840	20	400	270
500	1 000	840	595	33	520	130	1 020	22	500	320
650	1 500	950	670	36	550	150	1 200	25	650	400

*Denote chocks conforming to Panama Canal Company regulations.

†1kN≈1/10 tf.

APPENDIX A

(*Clause* 3.1.2)

PANAMA CANAL CODE OF FEDERAL REGULATIONS GOVERNING QUALIFICATION IN THE PANAMA CANAL AND THE ADJACENT WATER-CHOCKS AND BITTS

A-1. All chocks (fairleads) for towing wires shall be of heavy closed construction and shall have a convex bearing surface with a radius of not less than 178 mm. The convex surface shall extend so that a wire from the bitt, or the towing locomotive through the chock (fairlead), shall be tangent to the 178 mm radius at any angle up to 90 degrees with respect to a straight line through the chock (fairlead).

A-2. No part of the vessel which may be contacted by the towing wires, at any angle, shall have less than a 178 mm radius.

A-3. Chocks (fairleads) designated as single chocks shall have a throat opening of not less than 645 cm^2 in area-preferred throat dimensions 305 × 229 mm, and shall be capable of withstanding a strain of 32 000 kg on a towing wire from any direction.

A-4. Chocks (fairleads) designated as double chocks shall have a throat opening of not less than 903 cm^2 in area-preferred throat dimensions 356 × 254 mm, and shall be capable of withstanding a strain of 64 000 kg on a towing wire from any direction.

INDIAN STANDARDS ON MOORING EQUIPMENT

IS:	
3381-1965	Cast vertical bollards with and without lugs
4374-1967	Mild steel fabricated vertical bollards with and without lugs
4690-1968	Mooring buoy shackles
5112-1969	General requirements and testing of ac cargo winches (for ship-board use)
5113-1969	General requirements and testing of ac mooring winches (for ship-board use)
5130-1969	Drums fitted to cargo and mooring winches
5240-1969	Cast skew bollards
5625-1970	Cruciform bollards
5628-1970	Cast deck-end rollers
6195-1971	Cast open chocks
6204-1971	Cast open roller fairleads